

CLAIMS

1. A molded composite article in which a resin member comprising a non-urethane-series thermoplastic resin and a
5 resin member comprising a thermoplastic polyurethane-series resin are directly joined with each other, wherein

the non-urethane-series thermoplastic resin is a non-urethane-series thermoplastic resin (Ib) or (IIb), and the non-urethane-series thermoplastic resin and the
10 thermoplastic polyurethane-series resin fulfill a following requirement (Ia) or (IIa),

(Ia): the non-urethane-series thermoplastic resin (Ib) comprises at least one member selected from the group consisting of a polyamide component having an alicyclic ring, and an amino
15 group-containing compound, or

(IIa): each of the non-urethane-series thermoplastic resin (IIb) and the thermoplastic polyurethane-series resin has a polyether segment.

2. A molded composite article according to Claim 1,
20 wherein the non-urethane-series thermoplastic resin (Ib) is (Ib-1) a resin comprising a polyamide component having an alicyclic ring, or (Ib-2) a resin composition comprising a non-urethane-series thermoplastic resin and an amino group-containing compound.

25 3. A molded composite article according to Claim 1, wherein the non-urethane-series thermoplastic resin (Ib) has an amino group in a concentration of not less than 10 mmol/kg.

4. A molded composite article according to Claim 1,
wherein in the non-urethane-series thermoplastic resin (Ib),
the polyamide component having an alicyclic ring is at least
one member selected from the group consisting of an alicyclic
5 polyamide-series resin and an alicyclic polyamide elastomer.

5. A molded composite article according to Claim 1,
wherein in the non-urethane-series thermoplastic resin (Ib),
the polyamide component having an alicyclic ring comprises
an alicyclic polyamide component which is at least one
10 member selected from the group consisting of an alicyclic
polyamide-series resin, an alicyclic polyamide elastomer and
an alicyclic polyamide oligomer; and

a non-alicyclic polyamide component which is at least
one member selected from the group consisting of an aliphatic
15 polyamide-series resin and an aromatic polyamide-series resin.

6. A molded composite article according to Claim 1,
wherein in the non-urethane-series thermoplastic resin (Ib),
the polyamide component having an alicyclic ring is obtainable
by using an alicyclic diamine as a diamine component.

20 7. A molded composite article according to Claim 1,
wherein the non-urethane-series thermoplastic resin (Ib)
comprises a polyamide-series resin, and the proportion (molar
ratio) of an alicyclic monomer residue relative to other monomer
residue in all polyamide components constituting the
25 polyamide-series resin is the former/the latter = 100/0 to
0.1/99.9.

8. A molded composite article according to Claim 1,

wherein the non-urethane-series thermoplastic resin (Ib) is (Ib-2) a resin composition which comprises an amino group-containing compound and a non-urethane-series thermoplastic resin comprising at least one member selected
5 from the group consisting of a polyamide-series resin, a polyester-series resin, a polycarbonate-series resin, a polyphenylene sulfide-series resin, a polysulfone-series resin, a thermoplastic polyimide-series resin, a polyetherketone-series resin, an olefinic resin, a styrenic
10 resin, a (meth)acrylic resin, and a halogen-containing vinyl-series resin.

9. A molded composite article according to Claim 1, wherein in the non-urethane-series thermoplastic resin (Ib), the amino group-containing compound has a plurality of primary
15 amino groups in the molecule.

10. A molded composite article according to Claim 1, wherein in the non-urethane-series thermoplastic resin (Ib), the amino group-containing compound has an amino group in a concentration of 40 to 1000 mmol/kg.

20 11. A molded composite article according to Claim 1, wherein in the non-urethane-series thermoplastic resin (Ib), the amino group-containing compound is a polyamide oligomer having a number average molecular weight of 500 to 10,000 and an amino group in a concentration of 50 to 700 mmol/kg.

25 12. A molded composite article according to Claim 1, wherein the non-urethane-series thermoplastic resin (Ib) is a resin composition (Ib-2) comprising a non-urethane-series

thermoplastic resin and an amino group-containing compound, and the proportion of the amino group-containing compound is 0.01 to 20 parts by weight relative to 100 parts by weight of the non-urethane-series thermoplastic resin.

5 13. A molded composite article according to Claim 1, wherein the non-urethane-series thermoplastic resin (Ib) is a resin composition which comprises

 a polyamide oligomer; and

 at least one non-urethane-series thermoplastic resin
10 selected from the group consisting of a polyamide-series resin, a polyester-series resin, a polycarbonate-series resin and a polyphenylenesulfide-series resin.

 14. A molded composite article according to Claim 1, wherein the resin member comprising the non-urethane-series
15 thermoplastic resin (Ib) is directly joined to the resin member comprising at least one thermoplastic polyurethane-series resin selected from the group consisting of a polyester urethane elastomer and a polyether urethane elastomer.

 15. A molded composite article according to Claim 1,
20 wherein the non-urethane-series thermoplastic resin (IIb) having a polyether segment comprises a polyamide elastomer having a polyoxyC₂₋₄alkylene segment as a soft segment.

 16. A molded composite article according to Claim 1, wherein the non-urethane-series thermoplastic resin (IIb)
25 having a polyether segment comprises a polyamide elastomer comprising a polyamide segment and a polyether segment, and the proportion (weight ratio) of the polyamide segment relative

to the polyether segment is, the former/the latter = 9/1 to 2.5/7.5.

17. A molded composite article according to Claim 1, wherein the thermoplastic polyurethane-series resin having a
5 polyether segment comprises a thermoplastic polyether urethane elastomer having a polyoxyC₂₋₄alkylene segment as a soft segment.

18. A molded composite article according to Claim 1, wherein the proportion of the polyether segment in the non-urethane-series thermoplastic resin (IIb) is 10 to 90% by
10 weight relative to the whole resin, and the proportion of the polyether segment in the thermoplastic polyurethane-series resin is 10 to 90% by weight relative to the whole resin.

19. A molded composite article according to Claim 1, which is a shoe member or a roll member.

15 20. A non-urethane-series thermoplastic resin directly joinable to a thermoplastic polyurethane-series resin, which is a non-urethane-series thermoplastic resin (Ib) or (IIb), and

the non-urethane-series thermoplastic resin (Ib)
20 comprises at least one member selected from the group consisting of a polyamide component having an alicyclic ring and an amino group-containing compound, or

the non-urethane-series thermoplastic resin (IIb) comprises a non-urethane-series thermoplastic resin which has
25 a polyether segment and is directly joinable to the thermoplastic polyurethane-series resin having a polyether segment.

21. A resin according to Claim 20, which is (Ib-1) a resin comprising a polyamide component having an alicyclic ring or (Ib-2) a resin composition which comprises a non-urethane-series thermoplastic resin and an amino
5 group-containing compound.

22. A process for producing a molded composite article recited in claim 1, which comprises
heating at least one resin selected from the group consisting of the non-urethane-series thermoplastic resin and
10 the thermoplastic polyurethane-series resin, and
joining the both resins with each other.

23. A process according to Claim 22, which comprises
heating at least one resin selected from the group consisting of the non-urethane-series thermoplastic resin and
15 the thermoplastic polyurethane-series resin to be molten,
bringing at least one resin in the molten state into contact with the other resin, and
joining both resins with each other.

24. A process according to Claim 22, wherein the
20 non-urethane-series thermoplastic resin and the thermoplastic polyurethane-series resin are joined with each other in the molding process by a molding method selected from the group consisting of a thermoforming, an injection molding, an extrusion molding, and a blow molding.